

ABSTRACT OF THE DISCLOSURE

Ions are implanted into a resist pattern for forming a wiring pattern. Argon is employed as the ion species, for performing ion implantation under 50 keV at $1 \times 10^{16}/\text{cm}^2$. Due to the ion implantation, the thickness of the resist pattern contracts to about 334 nm, i.e., about 75 % of the thickness of 445 nm before ion implantation, while the composition of the resist pattern changes for improving resistance against etching for a silicon nitride film and a polysilicon layer. Thus obtained is a method of manufacturing a semiconductor device capable of suppressing critical dimension shift density difference (difference between a critical dimension shift on a rough region having a relatively large space width and that on a dense region having a relatively small space width).

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